

Brunswick County Unified Development Ordinance

WELLHEAD PROTECTION AREA ZONING OVERLAY

(April 10, 2023 – Recommended by Planning Board)

4.8.8 WPA: Wellhead Protection Area Overlay

A. Purpose and Intent

1. The Brunswick County Board of Commissioners recognizes: (a) that residents of Brunswick County rely on groundwater for a safe drinking water supply, and (b) that certain land uses in Brunswick County can contaminate groundwater particularly in shallow/surficial aquifers.
2. The purpose of the Wellhead Protection Area Overlay District (WPA) is to protect public health and safety by minimizing contamination of the shallow/surficial aquifers, Castle Hayne aquifer, and the Pee Dee aquifer in Brunswick County. It is the intent to accomplish this, as much as possible, by public education and securing public cooperation.
3. Appropriate land use regulations may be imposed, however, which are in addition to those imposed in the underlying zoning districts or in other county regulations.

B. Definitions Specific to the WPA Overlay

1. **AQUIFER.** A geological formation, group of formations or part of a formation capable of storing and yielding groundwater to wells and springs.
4. **CONTAMINATION.** An impairment of water quality by chemicals, radionuclides, biologic organisms, or other extraneous matter whether or not it affects the potential or intended beneficial use of water.
5. **DEVELOPMENT.** The carrying out of any construction, reconstruction, alteration of surface or structure or change of land use or intensity of use.
6. **FACILITY.** Something that is built, installed, or established for a particular purpose.
9. **HAZARDOUS MATERIAL.** A material which is defined in one or more of the following categories:
 - **Ignitable:** A gas, liquid or solid which may cause fires through friction, absorption of moisture, or which has low flash points. Examples: white phosphorous and gasoline.
 - **Carcinogenic:** A gas, liquid, or solid which is normally considered to be cancer causing or mutagenic. Examples: PCBs in some waste oils.
 - **Explosive:** A reactive gas, liquid or solid which will vigorously and energetically react uncontrollably if exposed to heat, shock, pressure, or combinations thereof. Examples: dynamite, organic peroxides, and ammonium nitrate.
 - **Highly Toxic:** A gas, liquid, or solid so dangerous to man as to afford an unusual hazard to life. Example: chlorine gas.
 - **Moderately Toxic:** A gas, liquid or solid which through repeated exposure or in a single large dose can be hazardous to man.

- **Corrosive:** Any material, whether acid or alkaline, which will cause severe damage to human tissue, or in case of leakage might damage or destroy other containers of hazardous materials and cause the release of their contents. Examples: battery acid and phosphoric acid.

11. **RELEASE.** Any unplanned or improper discharge, leak, or spill of a potential contaminant including a hazardous material.

13. **SHALLOW/SURFICIAL AQUIFER.** An aquifer in which the permeable medial (sand and gravel) starts at the land surface or immediately below the soil profile.

16. **WELLHEAD PROTECTION AREA.** The surface and subsurface area surrounding a water well, spring or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach that water well, spring or wellfield.

C. Delineation of the Wellhead Protection Area

1. **Brunswick County WPA Final Overlay.** The WPA Overlay District was determined using the Aquifer Source Volume (ASV) Method. In North Carolina, the WPA for wells withdrawing water from certain confined aquifers encompasses the area surrounding the well for which the time of travel from the outer edge of the area to the well is 10 years. WPAs based on a 10-year time of travel from their outer edge to the pumping well can be delineated by estimating the volume of the aquifer required to supply 10 years of withdrawals (i.e., the ASV method). When the calculated radius was drawn around each of the fourteen wells, it resulted in Wellhead Protection Areas with significant overlap, so the outer circles were used to draw a large delineation around the whole wellfield. **(NOTE: this is typically within about 1500 feet of the public water supply well. For more detailed information, see the Wellhead Protection Plan Brunswick County, North Carolina adopted by the Brunswick County Board of Commissioners, April 1, 2013).**

i. **Encouraged Uses.** Provided they meet appropriate performance standards outlined in 4.8.8 D. below and are designed to prevent any groundwater contamination.

- Parks, greenways, or publicly owned recreational areas.
- Necessary drinking water public utilities/facilities.

ii. **Special Uses.** The following uses are permitted only under the terms of a special use permit and must conform to provisions of the underlying zoning district and meet the limited use and performance standards outlined in Section 5.3 and Section 4.8.8 D. below. **(NOTE: see Article 3 Review and Approval Procedures - 3.5 Special Use Permit)**

- All uses indicated as a "SUP" in the WPA Overlay District (see Section 5.2.3 Use Table) may be permitted only where approved by the Zoning Board of Adjustment in accordance with Section 3.5 Special Use Permit.
- Expansion of existing nonconforming uses to the extent allowed by the underlying district. **(NOTE: see Article 10. Nonconformities).** The Brunswick County Zoning Board of Adjustment shall not grant approval unless it finds such expansion does not pose greater potential contamination of groundwater than the existing use.

iii. **Prohibited Uses.** In general, the following principal uses and/or accessory uses are prohibited within the WPA Overlay District. See Article 5 for principal uses that are permitted by right, permitted subject to limited use and performance standards, or permitted subject to a Special Use Permit.

- Garage service and/or Automobile repair/body shop;

- b. Repair, renovation, and remodeling of farm equipment;
- c. Vehicle and heavy equipment sales, service, and rentals;
- d. Boat repair and manufacture as a principal use;
- e. Commercial boating facilities;
- f. Retail sales that include gasoline /fueling facilities and/or truck stops including but not limited to convenience stores, auto centers, vehicle service facilities as an accessory use to a primary retail use;
- g. Laundry, dry cleaning, and carpet cleaning plants;
- h. Cemeteries, mausoleums, columbaria, memorial gardens as a primary use and as accessory uses to places of worship;
- i. Planing Mill/sawmill;
- j. Junkyard, wrecking, or salvage yard;
- k. Public or private waste disposal site, recycling, non-hazardous solid or liquid;
- l. Hazardous materials treatment facility;
- m. Construction and demolition landfill;
- n. Mining Operations, Class I & Class II/gravel pit;
- o. Nurseries and greenhouses;
- p. Confined animal feeding operations, lagoons, spray fields;
- q. Incinerators for the disposal of animal remains;
- r. Underground storage tanks, (except liquid propane gas (LPG) tanks);
- s. Land divisions resulting in high density (>1/acre) septic systems;
- t. Fueling Stations including but not limited to convenience stores with gas/propane sales, and any retail of gas or propane;
- u. Use list not exhaustive. The uses prohibited by this district represent the state of present knowledge and most common description of said uses in the Brunswick County Unified Development Ordinance (UDO). As other polluting uses are discovered, or other terms of description become necessary, these shall be added to the list of uses prohibited by this district.

iv. **Exemptions.** The following activities or uses are exempt from the provisions of the WPA Overlay District:

- a. The transportation of any hazardous substance through the WPA Overlay District, provided the transporting vehicle is in transit;
- b. The use of any hazardous substance solely as fuel in a vehicle fuel tank or as lubricant in a vehicle;
- c. Retail sales establishments that store and handle hazardous substances for resale in their original unopened containers.
- d. Office supplies that are used solely for the operation of on-site administrative offices, provided such supplies are prepackaged in a form ready for use.

e. Hazardous substances which are packaged for personal or household use and present in the same form and concentration as packaged for use by the public. The aggregate inventory of such substances shall not exceed 100 gallons or 800 pounds at any time.

f. Bona Fide Farm

g. Private Wells

D. ADD: Wellhead Protection Area Overlay District Map